

# 2010 Iowa Weather in Review

The following events were some of the top weather stories in Iowa during 2010. The information was provided by the Iowa State Climatologist, Harry Hillaker. The information is generally in chronological order and in no way represents the order of significance of the events.

## **1. Persistent Deep Snow Cover**                      December 9, 2009 to March 7, 2010

The near-record snowfall of December 2009 and persistent cold weather combined to allow the statewide average snow cover to exceed five inches for an amazing 89 consecutive days. Snow cover exceeded 30 inches over parts of northwest and north central Iowa and sometimes exceeded 20 inches as far south as Lamoni. Only January 1979 (40°) and December 1983 (40°) recorded lower statewide maximum temperatures than January 2010 (45°) and February 2010 (42°). The lack of any substantial warmth made it difficult for the winter's significant snowfall to melt.

## **2. Frigid Start to 2010**                                      January 1 – January 12

The new year got off to the coldest start since 1979 with temperatures over the first twelve days of the month averaging 16 degrees below normal. Spencer Airport reported a low temperature of minus 37°F on the morning of the 2<sup>nd</sup> while Estherville had a wind chill of minus 53°F. Estherville's wind chill was the lowest recorded in Iowa since February 1, 1996.

## **3. Warm Spring**    March 6 to May 31

Above normal temperatures were the rule for most of the spring and were a welcome relief from the long snowy winter. A quick succession of 'firsts' for the year included the first 50s (March 8), 60s (March 10), 70s (March 29), 80s (March 30) and almost reached 90° on April 1 (89 at Little Sioux). Overall the spring of 2010 was the warmest since 2000 and 15<sup>th</sup> warmest among 138 years of records. The sudden onset of warmer weather resulted in flooding along almost all Iowa rivers during March but eventually hastened the drying of Iowa's soils to allow field work to begin in a timely manner despite the cold and snowy winter.

## **4. Record Wet June**    June 1 – June 27

Persistent rain fall produced a new record high statewide average precipitation total for the month of June of 10.34 inches. This broke the previous June record of 10.33 inches set in 1947 and was second only to July 1993 (10.50 inches) among all calendar months. Des Moines, Indianola and Johnston each recorded measurable rainfall on 22 of the first 27 days of the month while an automated rain gage near Rowan in Wright County reported the most rain for June with 20.81 inches. Flooding, while frequent, was not as severe as might be expected thanks to higher temperatures (resulting in higher evaporation) and to the rain being distributed relatively evenly across the state and through the month.

## **5. Sibley Tornado**    June 25

Following what probably was Iowa's quietest spring severe weather season in over 30 years, a very strong tornado touched down near Little Rock on the evening of June 25. This storm was on the ground for about 14 miles just to the southwest of Little Rock and Sibley and reached an intensity of EF-4. At least ten injuries were reported from what was Iowa's strongest tornado since the devastating Parkersburg storm of May 25, 2008.

## **6. Maquoketa River Deluge**

July 22 – 23

Very heavy rains fell over the entirety of the Maquoketa River basin on the night of July 22 with additional heavy rain the next night. Oelwein reported 9.93 inches of rain on the first night of the storm and another 3.16 inches the next night. The flood surge down the Maquoketa River washed out the Lake Delhi dam and caused millions of dollars in damage along the lakeshore and downstream. Elsewhere persistent heavy rain in south central Iowa pushed the level of Lake Rathbun on July 24 to only 4.7 inches lower than the record lake level of July 28, 1993. Monthly rain totals peaked at 20.33 inches at Oelwein while statewide this ranked as the fifth wettest July among 138 years of records.

## **7. Central Iowa Downpours**

August 8-11

Very heavy rain fell on three consecutive nights across central Iowa with a total of 9.86 inches of rain at Ankeny. Major flooding resulted in Ames and points downstream along the South Skunk River, as well as in smaller water sheds such as Walnut Creek and Four Mile Creek in the Des Moines area. Urbandale reported 16.07 inches of rain for the month while very dry conditions developed over parts of northeast Iowa where Guttenberg recorded only 1.03 inches during August.

## **8. Warm and Muggy Summer**

June 1 to August 31

Very wet conditions prevented exceptionally high temperatures during the summer of 2010 with Ankeny the hot spot with a statewide maximum temperature of 98° on July 14. However, persistence made up for lack of extremes as temperatures averaged warmer than normal on all but 24 of the 91 days of summer. The result was Iowa's warmest summer since 1988 and 19<sup>th</sup> warmest summer among 138 years of records. The combination of temperature and humidity (heat index) made it feel like 110° degrees or warmer in some areas on July 14 and 23 and August 3, 8 and 9. The highest official heat index was 115° at Ames on July 14.

## **9. Perfect Harvest Weather**

September 26 to November 11

Unseasonably warm and dry weather made for one of the most rapid harvests on record in Iowa. Precipitation averaged only 25% of normal from late September through early November while temperatures averaged 3.4° above normal. The 2010 harvest was a huge contrast to last year when Iowa endured its coolest October in 84 years and wettest October since 1881. Virtually all soybeans and 97% of the corn crop were harvested by the end of October 2010 compared to 54% of the soybeans and 18% of the corn last year. Grain drying costs were practically non-existent this year thanks to a warm growing season that allowed crops to fully mature.

## **10. December Blizzard**

December 11 - 12

Very high winds and widespread snow brought blizzard conditions statewide, particularly on the night of the 11<sup>th</sup>. Snowfall amounts ranged from only an inch or two over the southwest and southeast corners of Iowa while 6 to 10 inch totals were common over the northern two tiers of Iowa counties. Waukon reported the most snow with 12 inches. Wind gusts of 50 to 60 mph were the rule over the western one-half of Iowa and in the 40 to 50 mph range over the east. Audubon reported the highest winds with a 70 mph gust on the evening of the 11<sup>th</sup>. Nearly all roads were closed over the northwest one-third to one-half of the state where the most intense snowfall and highest winds occurred simultaneously. Conditions gradually improved after daybreak on the 12<sup>th</sup> as snow moved out of the state and winds subsided somewhat. The statewide average snowfall with this storm was 3.8 inches, thus not nearly as great as the 10.5 inch average of the December 7-9, 2009 event and fortunately the mid-weekend timing of the 2010 event resulted in less disruption.

### **Statewide Annual Statistics.**

The statewide average precipitation for 2010 stands at a preliminary 44.68 inch total through December 27. This ranks second to only 1993 (48.22 inches) among 138 years of statewide records. Greatest totals fell over south central Iowa where some locations saw more than 60 inches of precipitation. Record annual precipitation totals for individual cities were set at locations such as Hawarden, Sanborn, Oelwein, Audubon, Ankeny, Fort Dodge, Grinnell, Indianola, Mount Ayr, Washington and Keokuk. The wet spot in 2010 appears to be Lake Rathbun Dam with 66.87 inches. Only Muscatine's whopping 74.50 inch total in 1851 exceeds this year's total at Lake Rathbun in the historical record. The statewide annual temperature could still change depending upon weather over the last half of December but at the moment averages 48.2° or 0.4° above normal. Temperatures were well below normal in the winter months of January, February and December, but above normal for the other nine months of the year.

A total of 33 tornadoes have been reported in Iowa in 2010 according to statistics gathered by the National Weather Service. This is less than the annual average of 47 tornadoes and only two of this year's storms were rated EF-2 strength or greater.